THE VETERINARY RECORD

A Weekly Journal for the Profession.

EDITED BY WILLIAM HUNTING, F.R.C.V.S.

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THOMAS BRIGGS.

This week we have again to chronicle the death of a prominent member of the profession—Mr. Briggs, of Bury. The deceased was on a professional visit to his brother at Halifax when suddenly seized with his fatal attack. His diploma is dated 1872, so that he had only just reached middle age and the zenith of his career. Mr. Briggs had a very extensive practice, and his professional opinion was highly valued not only in his own district but in many and distant parts of the country. In an extract we publish from a local paper it will be seen in what esteem Mr. Briggs was held outside of his profession. He was a Justice of the Peace and took an active part in magisterial duties, earning the confidence and esteem of his colleagues on the Bench.

In the profession Mr. Briggs was very widely known and respected. He took an active part in its politics and in the discussion of scientific matters at the meetings of the profession. In July, 1877, Mr. Briggs was one of the first five members to take the Fellowship degree. For four years he held the position of a Vice-president. For many years he took an active share in the work of the Lancashire Veterinary Medical Association, and was President of that body. In the proceedings of the National Veterinary Association Mr. Briggs was also prominent, having for some years been a constant attendant at the annual meetings, and on one occasion being the author of a paper which gave rise to considerable discussion.

He was a good practitioner, a man of independent thought, and one who had the courage of his convictions. In the profession and out of it he did honour to his diploma, and we can ill spare such men.

CLINICAL RECORDS.

It is not given to every practitioner to write instructive and readable articles on the nature and pathology of diseases. For this much time and study are necessary, and when novel hypotheses are advanced they are apt to provoke contradictions and retorts not always accepted by the original author as scientific truths.

In the days gone by when guessing was the chief basis of pathology every practitioner might safely give his guess at truth, and one was as good as another until some experimentalist showed what were really the facts. In these days pathology has become a science, and is only advanced by close observation of facts and the assistance of experimental tests. The busy practitioner will do well to be content with carefully observing and recording what he sees, and he may with safety leave to the man who has time and a laboratory at his disposal the explanation of the more abstruse and complex changes which go to produce the lesions or symptoms he recognises.

We can all note what we observe, we can all record the clinical history of cases we see, and no part of a professional journal is more interesting than that which contains the experience of practitioners.

If we could obtain the statements of our readers we should probably find that a large majority turned first to the "Clinical cases," then to the "Correspondence," and last of all to the more abstruse articles. It seems almost parodoxical that whilst clinical cases are the favourite subjects of our readers and the easiest tasks for our contributors, we should have so much difficulty in obtaining them. The writer of a good "case," such as that on Pyæmia, on another page, is always sure of appreciation. Every practitioner has occasionally cases of interest, and we never yet met the man who could not relate them in an interesting and intelligible form. What is the reason of their scarcity in our columns? Some say "they have no time," some that "they fear to be attacked by anonymous correspondents." Another feeling we fancy prevails though not put into words, viz., "if I take the trouble to write at all I should prefer to write something original or exhaustive." This is very human, but it is not scientific. Originality is most difficult, and one new fact is a good excuse for a volume, whilst to aim at exhaustive treatment is absurd—no book or article ever attains that end except in reference to the reader's patience or the writer's sanity. There may be more science in half-a-dozen lines recording direct observation than in pages of hypothetical explanation.

We do not assume to be a scientific journal, but we should be proud if our subscribers would give us the right to boast that we were a clinical record.

WHAT IS A TERM?

In the bye-laws of the Royal College of Veterinary Surgeons regulating the duration of studies and sequence of examination the word "term" is used. Prior to the first examination "three terms," prior to the second "two terms," prior to the third "three terms" of study are required. This would be very definite but for the fact that no one knows that a "term" is.

CASES AND ARTICLES.

PYÆMIA.

By C. Rutherford, F.R.C.V.S., A.V.D., Aldershot.

A good-looking 4 year old troop mare, and a good one at work, was an inveterate kicker in the stable at night, and for some reason or other she always kicked with the off-hind leg. At no other time did she show signs of vice of any sort. As a result of this kicking propensity the outer face of the off-hind leg below the hock was thickened; and on several occasions during the summer and autumn of 1892 small abscesses had been opened; these healad most readily.

On the 3rd January, 1893, she was brought to the sick horse lines very lame in the off-hind, literally going on three legs; the previously thickened leg was considerably swollen all round from coronet to hock and transversely ridged, whilst the hairs on this part were inclined to be erect. The swelling was warm, and on pressure with the finger it pitted for a second or two, the skin becoming pale, but this pallor was immediately followed, on release of the finger, by a livid hue. The internal temperature was 102·4 F.

It was evidently a case of cellulitis, caused most likely by kicking; but I could get no accurate information as to her behaviour during the night.

On the 5th her temperature was 104°; she had fed well, and was bright and lively. There was a slight oozing of a pale creamy fluid through a portion of the skin—not the size of a sixpenny piece—at the posterior face of the fetlock. Although no abscess could be felt the spot was freely incised, on the supposition that there was a deep-seated collection of pus, and that the sooner it was evacuated the better, but only a few drops of apparently laudable pus came away. Perhaps I didn't reach the abscess, or, it may be, I should not have used the knife at all. The leg was kept in a bath of warm water, and subsequently sponged with carbolic lotion and dusted with iodiform.

Next day the swelling was most painful and had extended up the leg, but that above the hock was of an œdematous character; by the 8th the œdema reached the groin, and from the stifle downward to the hock the swelling was more of the character described as existing at first below the hock only. Temperature 104·6 F.

On the 9th some bullæ, several pebble-like swellings filled with grumous blood, and small abscesses which had been forming for two or three days between the coronet and hock, were opened; there were indications also of several larger and deeply-seated abscesses on the thigh and stifle. Considerable pain was evinced on handling the leg; thirst was great; appetite capricious; the respirations increased; the conjunctival mucous membrane was yellow and œdematous with a tinge of red, the nasal membrane much darker with the veins standing out like dark blue cords; mouth hot and furred; temperature 105·8 F. There was no cording of the lymphaties, no so-called "buds" to be found in the affected leg or on any part of the body.

On the 11th the urine was not only markedly increased in quantity, but it was thick and yellowish; after passing which the mare would show that some irritation existed somewhere in the region of the bladder. I could not detect any abscesses deeply seated in the groin, nor yet in the pelvic region to account for this irritation, which lasted two more days.

On the 12th her breath began to smell most unpleasantly, and there was a purulent discharge from the near nostril, but no coughing; the respirations were increased more than formerly and accompanied by fits of "blowing"; complete loss of appetite; great dejection; and a temperature of 107 F. I expected her to die within 12 hours, but she lingered on in a semi-comatose condition until the night of the 14th. Just before death the temperature fell to 97 F.

The leading *post-mortem* appearances were as follows:—The enormous thickening of the off-hind leg was seen to be due to partially organised exudate which was bathed in streaks of a fibrino-purulent material, and there were several patches of hæmorrhagic exudate most marked in the tissues immediately beneath the skin. The muscles of the thigh were pale, and bathed in pus at parts. Inguinal lymphatic glands were greatly swollen and softened, and contained spots of hæmorrhage, but I did not come across any pus in them. The hock-joint contained a purulent fluid, not synovia, and the lower extremity of the tibia with the corresponding surface of the astragalus was eroded and dark red in colour. No thrombosis was noticed in the leg. The bowels were almost empty, their mucous coat injected, somewhat swollen, and moist (as if macerated or soaked). The peritoneum was green. The liver was enlarged, soft to the touch, and of a bluish-green tint on its surface; on section there was a marked change noted: the normal brownish colour was replaced almost throughout by that of a mottled grey, the interlobular tissue was markedly increased, and the hepatic veins distended. Here and there purulent infiltration was present, and small abscesses surrounded by a soft greyish tissue were dotted throughout. The spleen was somewhat enlarged, and contained several abscesses with pus of a most abominable odour, the tissue surrounding which was soft and infiltrated with a sero-sanguineous material. The kidneys were enlarged and flabby; on section the malpighian bodies stood out prominently as dark points. The ovaries seemed healthy. The lungs: the anterior lobes were collapsed, œdematous, and contained small purulent foci; the other lobes, though hepatised, were soft and dirty-grey in colour—a great contrast to the hepatisation of a sthenic type of pneumonia—being mapped out with many purulent grey tracks; the interlobular tissue was increased in thickness from serous infiltration; and the lower border of both lungs was riddled with sieve-like cavities containing greyish-red foul pus. The bronchii when washed showed a swollen mucous membrane of a deep red colour. There was subendothelial ecchymosis of the heart and large blood vessels. The

blood of the body was dark and fluid, and was, when allowed to flow over the knife, of an oily appearance.

It is to be regretted I omitted to saw through and examine the bones, the metatarsus at least, of the off-hind leg, for suppurative inflammation of the medullary tissue—a disease in man, it is said, most prone to give rise to pyæmia; nor had I time to examine the brain.

To my mind this case is interesting from many points, not only from the fact of the animal's surroundings being as good as could be desired, both in the squadron stables and at the sick horse lines, and that no source of infection could be traced with any accuracy, but from one or two details by whic it differs from the same disease in man. In this case there was to start with a leg weakened by previous inflammatory exudate and its organisation, then there was a recurrence of the inflammatory action in an aggravated form—of a phlegmonous type with suppuration—which rendered the animal "dead-lame," then the swelling extended gradually up the leg and at the same time bullæ, abscesses, etc., formed; but before these latter were manifest the leg was incised. Perhaps, if that small abscess, first noted at the fetlock, had not been opened it may be that pyæmia would not have resulted, and the question frequently arose in my mind during the course of the trouble, "would it have been better simply to have favoured the maturation of abscesses, or reduction of the severe inflammatory action?" If the pyæmia followed the incision at the fetlock—if the wound so made became inoculated with the micrococci which cause this trouble—then I imagine pyæmia ought to be more commonly met with. We know that pyæmia is not a disease *per se*, but that it follows suppuration in some part of the body and that it is then due to some specific cause—micro-organismal inoculation or infection—so supposing this horse did develop pyæmia after the incision of the abscess, when did the disease set in? We have the fact that the temperature was high to begin with (before the abscess was opened) and that from the outset it rose gradually, not suddenly at any time, and it kept on rising until it reached 107° F. Was this diffuse cellulitis of a pyæmic nature at the outset, if so, when and how did the infection take place?

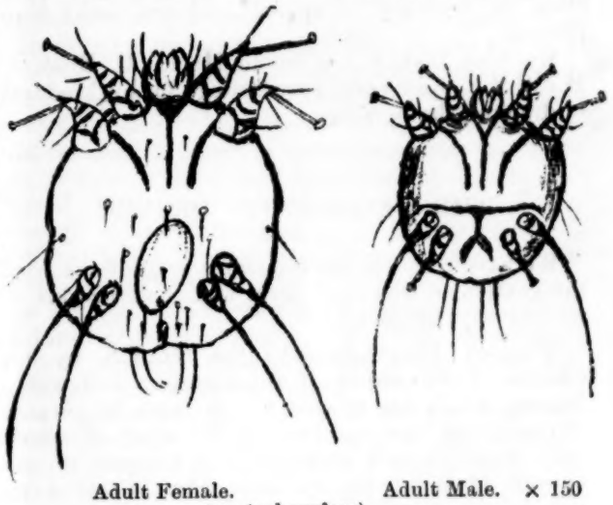
Another point of interest in the case is, that although the destructive pathological lesions were characteristic of the disease, the symptoms during life did not quite correspond with those said to almost invariably accompany pyæmia in man, for instance, there was no great irregularity in the temperature; it varied only so much as it does in many non-septic diseases, *i.e.*, a morning and evening increase or decrease to the extent of only $\frac{2}{5}$ or $\frac{3}{5}$ of a degree, in fact, the case was marked by a progressive rise in the temperature. It may also be noticed that there was no effort of nature, as it is called, to throw off the disease by the bowels by effecting diarrhœa—the brunt of the whole course of the trouble seems to have been borne by the liver, spleen, and lungs, apart from the leg.

SARCOPTIC MANGE IN THE FOX.

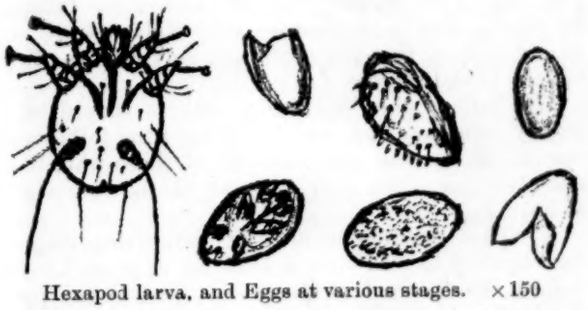
By E. F. De Jong, New Veterinary College, Edinburgh.

I am indebted to Mr. J. H. Parker, M.R.C.V.S., Faringdon, for the opportunity of being able to describe for the first time to my knowledge in the English language, sarcoptic mange in the fox. Mr. Parker sent to me a portion of skin from the loins of a fox which was killed with the Old Berkshire Hounds for my confirmation of his diagnosis, viz, that it was affected with sarcoptic mange.

On microscopic examination I found scores of acari in all stage of development from a newly laid egg to an adult belonging to the genus sarcoptes scabiei (drawings from which are appended). These



Adult Female. (ventral surface) Adult Male. × 150



Hexapod larva, and Eggs at various stages. ×150

acari have no characteristics which distinguish them from other members of the genus of which they are only a variety, and differ principally by their dimension, being slightly smaller than those of varietas equi. Mégnin in his "Les Parasites et les Maladies Parasitaires" mentions this parasite and gives the following measurements:—

Female	·40 m.m. long	·31 m m. broad.
Male	·24 m.m. long	·18 m.m. broad.
Egg	·14 m.m. long	·08 m.m. broad.

The body is oval in form and in the adult bears four pairs of legs, two anterior close to the mouth and two posterior; the latter being invisible when the parasite is viewed from the dorsal surface. They are cone-shape and short; the two anterior pairs carry suckers in both male and female. The two

posterior pairs in the female end in long bristles, whereas in the male the fourth pair carries suckers.

The immature parasite has only three pairs of legs (hexapod larva).

Mr. Parker informs me that the disease has been in existence for two or three years and has played great havoc among the foxes of White Horse Vale. The disease seems to *principally* affect the loins and brush, although other parts of the body may also be affected. The animals become very much emaciated and afford very poor sport.

It is a noteworthy fact that the disease is transmissible to dogs and horses, but affects them in a mild and temporary manner, the hounds having been known to have had it, and if the head of an affected fox be attached to the saddle a crop of vesicles appear on the horse in a few days, which show no tendency to spread and are easily suppressed.

My best thanks are due to Mr. O. C. Bradley, M.R.C.V.S., New Veterinary College, for his kindness in drawing the parasites.

THE FELLOWSHIP DEGREE.

We have received the following suggestions from the gentlemen who sign them and shall be glad to receive any comments:—

Whereas, the Council of the R.C.V.S. by our Charter of 1876 has the power to grant a Fellowship Degree, which was created for the specific purpose of promoting and encouraging the study of veterinary medicine and surgery: and whereas in our opinion advantage has not been taken of this privilege by the Council, we beg respectfully to suggest, that it is necessary in the immediate future, for the Council to re-organise the "Fellowship" in such a manner that the profession may reap the full benefit of the Degree.

We believe the Fellowship Degree should be a purely honorary one, and we submit the following resolutions for the consideration of those who, like ourselves, have the best interest of the profession at heart:—

1. That candidates for the Fellowship Degree be required to read and defend an original Thesis before the Council at a meeting open to the profession:
2. That a majority of the Council accept or reject the Thesis; a gold medal being given for special merit:
3. That the Degree be conferred free:
4. That after a Thesis has been accepted it be published in the Veterinary Journals, at least three months before the Annual General Meeting:
5. That the Degree be conferred at the annual general meeting; and that the graduate's name be published in the daily papers, together with the title of his Thesis.

Signed, { Frank W. Garnett. T. F. Macdonald. C. J. Reakes. J. A. Gilruth.

TRANSLATIONS.

SURGICAL TREATMENT OF TETANUS.

Notes of Nine Cases by Professsor P. J. Cadiot, (Alfort.)

Trans. by Thos. J. Watt Dollar, M.R.C.V.S.

Case I.—Stallion, seven years old, belonging to M. G. Rue Armand Carrel, Montreuil-sous-Bois. The subject, which was carrying a seton, was suddenly attacked with tetanic spasms whilst at work on the 8th May, 1888. He was brought to Alfort the following day. Contraction was violent, generalised, and the trismus very marked.

I decided to excise the hardened course of the seton. The tape was removed, and the channel disinfected. The animal, previously injected with morphine, was laid down, and then incompletely anæsthetised. I washed the seton channel with a carbolised solution and removed the hardened tissues with the bistoury. The wound was dressed with iodoform. I prescribed spirits of turpentine internally and ordered enemata of belladonna and chloral. As with all my other tetanic subjects, this patient was placed out of reach of the light and of ordinary causes of excitement.

For several days there was no marked change in the intensity of the symptoms, then they gradually became worse. The animal succumbed the 17th May.

Case II.—Entire horse, four years old, belonging to M. Th., Rue d'Alembert, Montreuil-sous-Bois. This horse had been affected with "corns" (bleimes), of both fore feet, for a long time. Suppuration supervened in the inside heel of the near foot. After three days rest the animal was again sent to work. Twelve days later symptoms of tetanus appeared. Entered at the school 29th May, 1889. Generalised contractions; pronounced trismus.

Treatment.—Thinning of the bar and the sole of the internal heel, removal of the detached horn, excision of the inflamed tissues and of the neighbouring zone, iodoform dressing frequently renewed. Internally, spirits of turpentine, belladonna, sulphate of soda. The contractions persisted to the same extent until the 14th June, they then increased and caused death on the 20th.

Case III.—Gelding, 11 years old, belonging to M. Th., Rue d'Alembert, Montreuil-sous-Bois. This horse was operated on at Alfort for canker of the frog the 26th October, 1889. It did not stay there, and after a few days rest was again put to work. The 3rd November tetanus manifested itself. The next day the patient was brought to the school. Strong and generalised contraction, trismus. The animal ate, without too much difficulty, a portion of its feed.

Treatment.—Thinned the horn around the wound, deep and prolonged cauterization of this latter by the thermo-cautery, iodoform dressing. Internal medication, sulphate of soda, laudanum and chloral.

The following days the condition became aggravated, the contractions were very intense. Death took place the 7th November.

Case IV.—Stallion, 10 years old, belonging to M. D., Rue de l'Alouette, Saint-Maudé. Wounded at the internal part of the pastern and the coronet of the near fore limb on the 20th April, 1890. The injured surface was covered with a granulous layer on the 6th May, the date that tetanus made its appearance. Brought to the school the following day. Generalised contraction, trismus made mastication very difficult.

Treatment.—Disinfection of the wounded region, excision of the superficial layer of the wound (granulations) with the bistoury and application of iodoform dressing, sulphate of soda in the drinking water and chloral in clysters. The condition remained stationary until the 15th May. From that time the muscular tension diminished, the jaws gradually attained the liberty of their movements. The animal left cured on the 16th June.

Case V.—Entire horse, five years old, property of M. Th., Montreuil-sous Bois. Taken to the school the 10th November, 1890. Tetanus following an injury to the off fore pastern, which deeply implicated the posterior and middle portion of the plantar cushion. The foot affection, which dated back about 15 days, had been treated with poultices and a dressing of tincture of aloes. The first symptoms of tetanus were observed on the 9th November. The contractions were already generalised and the jaws firmly fixed together.

Treatment—Disinfection of the pastern, of the coronet, and sides of the wound, large excision and cauterization of the latter; iodoform dressing. Internally, sulphate of soda, aqueous extract of belladonna, chloral. For 48 hours the condition remained the same as before the operation, then aggravation of the symptoms and death the third day.

Case VI.—Stallion, eight years old, property of M. G., Rue de Paris, Montreuil-sous-Bois. Picked up a nail early in October, 1891. This body penetrated to the limit of the anterior and middle zones of the plantar region. The injury had been treated by thinning the horn and by poultices. Ten days later tetanus supervened.

This animal came under my notice the 14th Oct., contraction was already generalised and trismus marked. I at once determined to operate. The subject was anæsthetised with morphine and chloral, I removed the sole and a rag of soft tissue, cut out a small piece of the terminal portion of the plantar aponeurosis, scooped out the necrosed phalange, slightly cauterized the wound with strong carbolic solution and applied a dressing of iodoform. The animal had but feebly reacted, yet the operation was followed without delay by an increase of the contractions. Attacks showed themselves the next day. Death took place three days afterwards.

Case VII.—Entire horse, seven years old, belongto M. Th., Montreuil-sous-Bois. Injured at the upper border of the neck and in front of the shoulders by the collar. Recognised tetanic the 30th March, 1892, and immediately taken to Alfort. Generalised contractions, trismus, the least excitement induced violent attacks.

Treatment.—Disinfection of the peritraumatic zones with a 5 per cent. watery solution of carbolic acid, scraping of the wounds, which were immediately washed out with a strong carbolised solution, cleansed morning and evening with this preparation and covered with vaseline and iodoform. 6 to 10 grammes of iodine and 10 to 20 grammes of hydrochloric acid were given in the drinking water every day. From the third day there was a marked improvement, which continued, and the cure was complete on the 6th of May.

Case VIII.—Chevalantier, 10 years old, belonging to M. Th., Montreuil-sous-Bois. Brought to the school the 9th May, 1892. Fifteen days before, injury to the near fore foot by a large nail which had penetrated deeply into the plantar cushion. The first tetanic symptom was noticed on the 8th May. There was general contraction, trismus was relatively but little marked. The wound of the plantar region round, regular, of the diameter of a two franc piece, was fistulous, the horn about it was detached.

Treatment.—Thinning and removal of the detached horn, disinfection and scraping of the wound. Administration of iodine and hydrochloric acid in the drinking water. The condition remained stationary for about ten days. The 20th May there was a manifest improvement, although the jaws still moved with difficulty. The 10th June there was only a slight stiffness of the limbs which still persisted for fifteen days.

Case IX.—Gelding, 14 years old, property of M. B., Rue de Fontenoy, Vincennes. Came under my care the 12th July, 1892. Had been pricked in the off hind foot about a month previously. The injured tissues had cicatrised and were already covered with horn. A few small suppurating wounds were noticeable in front of the shoulders. Contractions general and intense, the jaws immovable, extreme hyper-excitability.

Treatment.—Disinfection and scraping of the apparent wounds, administration of 8 to 10 grammes of iodine and 10 to 15 grammes of hydrochloric acid in the drinking water, clysters of chloral. The trouble became rapidly worse and death supervened on the evening of the following day.

In a general manner, in these cases and in many others, large ablations of the tissues of the peritraumatic zone showed themselves much less useful than the simple disinfection and dressing of the virulent wounds.

From the *Recueil de Médecine Vétérinaire*, 1893.

INTESTINAL SECTION IN A DOG.

By Professor Fröhner.

Trans. by Jno. A. W. Dollar, M.R.C.V.S.

The patient had swallowed a marble, and the use of purgatives had been without effect. Three days later Fröhner was able to discover about the centre of the abdomen a round, painful swelling about the

size of a walnut which could be easily drawn down. In front of the swelling the intestine felt full, behind it empty. When one stood the dog on its hind legs the swelling fell towards the pelvis, when on its front legs towards the chest, when on its back towards the lumbar region. From this investigation it was decided to remove the foreign body by operation. The dog received ·04 gramme morphium subcutaneously, an incision 6 c.m. in length was made through the skin in the umbilical region and paralled with the linea alba, the abdominal muscles cut through, and the peritoneum seized with forceps and drawn apart about 5 c.m. With the thumb and forefinger the intestine was so far drawn out of the abdominal cavity that the obstructed point could be seen. This part was now withdrawn as far as possible, the abdominal wound covered with many layers of creolin gauze, in front of and behind the stone ligatures tightly applied, and all being prepared a 4 c.m. longitudinal cut was made right over the swelling which allowed a pebble to appear. The wound and cavity of the intestine were now thoroughly cleansed with creolin, then the intestinal wound brought together with two series of catgut ligatures, serosa to serosa, the coil of intestine next thoroughly rinsed, the temporary ligatures loosened and removed, and last of all the intestine returned to the abdominal cavity. The peritoneum, abdominal muscles and skin were closed with silk sutures, the entire body enveloped in creolin-wood—wool and on top of these cambric bandages. The dog received inwardly wine and (to check peristalsis) opium. Complete healing followed, although an unpleasant complication was caused by the fact that in dogs the hinder part of the bandages is apt to be soiled with urine and so a wound infection be brought on. In bitches the healing would probably be much less complicated and more assured.—*Berliner Thiérarztliche Wochenoschrift, Dec. 20th.* 1892.

VETERINARY SOCIETIES.

THE CENTRAL VETERINARY MEDICAL SOCIETY.

The usual monthly meeting of the Society was held on Thursday night, the 2nd inst., at the Royal College of Veterinary Surgeons, 10 Red Lion Square, Holborn. Mr. W. Roots, the president, occupied the chair, and the other Fellows present were Messrs. W. F. Barrett, F. Butler, A. L. Butters, M. Clarke, H. W. Caton, Colonel Duck, H. Edgar, J. Farmer, T. C. Garry, Capt. B. S. Glover, J. S. Hurndall, S. E. Holmans, Wm. Hunting, R. C. Irving, Major Kettle, H. Leeney, Capt. Longhurst, G. C. Lowe, F. C. Mahon, W. J. Mulvey, P. McOnie, Prof. Penberthy, A. Prudames, W. Roots, J. Rowe, H. G. Rogers, A. Rogerson, Prof. F. Smith, S. Slocock, Prof. Shave, F. W. Willett, F. Wragg. Visitors: Messrs. J. D. Barford, F. L. Carr, G. J. Conford, P. S. Falshaw, Prof. McFadyean, T. B. Goodall, J. A. Gilruth, T. Hodges, W. Mills, S. Pratt, Captain Rutherford, C. J. Reakes, W. Stapley, E. R. Sherrin, J. H. Shepherd F. Scott and W. Hunting, Jun.

On the motion of Mr. J. Rowe, seconded by Mr. A. Rogerson, the minutes of the preceding meeting were taken as read and were confirmed.

The Hon. Sec. (Mr. H. G. Rogers) intimated that he had received letters from Mr. H. Withers and Professor T. Walley expressing regret at their inability to attend that meeting.

Anatomy of the Facial Sinuses of the Horse.

Professor Macqueen, who had been announced in the circular convening the meeting to give a "Demonstration, with specimens, of the Anatomy of the Facial Sinuses of the Horse," said that his first duty on that occasion was to direct their attention to the secretary's notice in which, he had no doubt, Mr. Rogers intended to pay him a compliment when he announced his appearance there as a demonstrator. He did not purpose giving a demonstration, nor did he intend to pay much attention to the sinuses of the head in the way of anatomical description. He should mainly concern himself with the medication of the sinuses of the horse's head. He might at once say that his appearance there that evening was due to two papers that were read some time ago. He referred to a paper read by Professor Smith about November, 1891, and to another paper read by Mr. Goodall in 1892. After reading those papers and the discussions which followed them, he came to the conclusion that they contained many statements with which he could not agree, and which to him appeared to be so astounding, so new, so surprising, that he thought they should not go unchallenged. Hence he resolved, at the first opportunity, to make a new examination of the sinuses of the horse's head. It was part of his duty in former years to describe the sinuses of the head to anatomical students, but after reading Mr. Goodall's paper in particular, he concluded that he must have been working on the wrong lines entirely. Therefore, at Christmas when he had a little leisure, he decided upon making a fresh examination. Now, anything he said that night would, he hoped, be discussed. He courted full criticism,—unflinching criticism. Let anyone who wished to express an opinion speak his mind. He had a view quite different from that of Mr. Hurndall, and that was that veterinary discussions were often too lukewarm, were lacking in candour, were too polite, too sympathetic, often far too acquiescent. The result was that the audience—and he had frequently been one of the audience assembled—sat quietly receiving a great many statements with which they did not entirely agree. Everyone must have noticed that the best remarks on a paper had often been made after the meeting was over. Hence he invited full discussion and he wished his audience to note anything with which they did not agree so that they would be able to check it at the moment, because he thought there were certain peculiarities in connection with the sinuses of the horse's head that should be settled, and that they should agree in their statements of facts.

First he must ask their indulgence whilst he referred to what the authorities said. They would have observed that both Professor Smith and Mr. Goodall were not satisfied with their anatomical text books, nor were they apparently even satisfied with the teaching, which to him was not a new thing. He desired to remind them that the first description of the turbinated bones and facial sinuses of the horse was given—so far as he had been able to discover—in 1724 by a French surgeon, Dr. Morand, Medical Press Censor to Louis XV.

The celebrated Bourgelat—having deserted the profession of the law for that of cavalry officer and riding master—in 1749-53 issued a three volume work entitled "*Elémens d'Hippiatrique.*" This book appeared some ten years before the foundation of the first Veterinary School or before the systematic study of veterinary science. Bourgelat's second volume contained an exhaustive description of the nasal chambers and their functions. The

author recognised five sinuses and named them Frontal, Sphenoid, Ethmoid, Zygomatic, and Maxillary. He noted that the frontal was absent and the maxillary rudimentary in the fœtus, and that the sinuses increased with age. He stated how the sinuses were formed, where to reach their depths, and referred to peculiarities of the sinuses of the human skull discovered by Highmore, Spigelius and Morgagni. He asserted that similar peculiarities occurred in animals; that the limits of these cavities were never perfectly constant, and that the maxillary septum might be absent. Bourgelat described the false nostril, the turbinals, their cavities and septa, and five muscles concerned in dilating the nostril. In referring to the false nostril he mentioned that he had seen many farriers inject and push indifferently drugs into this pouch without effect, because they never reached the proper fossa. Next followed a careful and minute description of the pituitary membrane, its disposition, character, thickness, softness, its crypts, follicles, and glands; its innumerable arterial, venous and serous vessels. Bourgelat noted the correspondence of the sinuses one with another, and their communication with the nasal chamber: that the nasal secretion was not very abundant in health, that it was aqueous, subtile, fell drop by drop, its escape not being manifest until after work or exercise, and that in relaxed conditions it became copious. He entered into full detail regarding the uses of the nasal secretion, its influence on olfaction and its action on odoriferous air. He treated of the functions of the sinuses, the nostrils—true and false—and of the turbinated bones.

Blaine—whose work on "Horses and Dogs" appeared about 1817—in his "Veterinary Art," edition 1865, said:—"Immediately above arch of the palate, which is situated inferiorly, the nose communicates with the frontal sinuses by a species of flap or valve, through which a probe can be easily thrust but which must admit but little air into the sinuses.

Percivall's "Anatomy"—edition 1858, said:—"Maxillary sinus; superiorly the sinus is open, being there continuous with the frontal; the boundary line is marked by a suture, etc. . . . and by the prominent crest formed by the junction of the superior turbinated with the Ethmoid bone; underneath which part—through a curved (and in the recent subject, sort of valvular) fissure, the sinus opens into the middle meatus between the bases of the turbinated bones.

Gamgee and Law's "Anatomy of the Domestic Animals" 1861, contained the following:—"The anterior (sinus) opens separately into the middle meatus by the anterior part of the common aperture."

Varnell, in *the Veterinarian* for 1867, gave this description:—"The sinuses of the head are air cavities which communicate freely with each other and by a small opening with the nasal passage. This opening is situated at the supero-posterior part of the middle meatus and is guarded by an imperfect valve which, when pressed upon from within, either partially or wholly closes the opening. This communication may be also closed by the mucous membrane being thickened by disease."

Chauveau's Comparative Anatomy (Fleming's translation, 1873) contained an excellent description of the facial sinuses, from which Professor Macqueen quoted the following:—"Frontal sinus communicates with the superior cavity of Ethmoid turbinated. Septum between frontal sinuses always imperforate. Superior maxillary sinus, largest of all, divided into two compartments by maxillo-dental canal. Internal compartment, a shallow cavity continuous with sphenoidal sinus and also by narrow slit with ethmoid sinus. External compartment is separated from inferior maxillary sinus by a partition which Gonbaux demonstrated to be imperforate at all periods of life, though he has sometimes found it so thin as to consist only of two mucous layers placed back to back. Sphenoidal sinus formed by sphenoid and palate bones. Has many incomplete septa. The middle or antero-posterior septum is always perforated." (Here Professor Macqueen remarked that this perforation of the sphenoidal or septum might give passage to pus from one maxillary sinus to the other. If this complication did not occur frequently, it was probably due to the condition of the pus, the solids having settled to the bottom and so blocked the orifice).

Ethmoid sinus: a large cell in communication with the internal compartment of superior maxillary sinus.

Inferior maxillary sinus; remarkable because it does not communicate with the others; separated from superior sinus by imperforate plate; divided into external and internal compartments by superior dental canal. Internal compartment prolonged into superior cavity of maxillary turbinated bone. External, smaller, showing roots of fourth, rarely those of third molar tooth.

The first four sinuses communicate; the last is usually perfectly isolated. As to the common opening—this orifice is ordinarily narrow and curved, but we have seen it sometimes converted into a foramen sufficiently wide to permit the introduction of a finger. All the sinuses of one side communicate with the corresponding nasal fossa by the curved slit which has been observed at the bottom of the middle meatus. This slit penetrates the superior maxillary sinus under the septum that separates it from the frontal sinus; it also enters the inferior maxillary sinus which thus communicate solely with the nasal cavity; while the other diverticuli open in common into this cavity through the medium of the superior maxillary sinus."

Strangeway's Anatomy, edited by Vaughan 1886, in referring to sinuses, said:—"Each nasal chamber communicates with four distinct sinuses." "The anterior cavity, often called the inferior maxillary sinus, is generally isolated from the rest."

McFadyean's "Osteology" and "Anatomy of the Horse" might also be consulted. This author alluded to the common opening as:—"A curved slit not visible from the nasal fossa . . . . through which a flexible probe may be pushed."

The last authority he (Professor Macqueen) would quote was Professor Williams, who in his "Veterinary Surgery" 1890, said:—"Facio-cranial sinuses may very reasonably be looked upon as one cavity divided into frontal, maxillary, and sphenoidal compartments. They form air cavities and communicate with the nasal passages by a small passage guarded by an imperfect valve. In addition to the above divisions, each compartment is divided into smaller cavities by thin osseous plates, the whole being lined by a continuation of the Schneiderian membrane, which is neither so vascular nor so thick as in the nasal passages."

Prof. Macqueen then observed that, having regard to the authorities he had quoted, he did not think anyone could say that some attention had not been paid by so-called "authorities" to the sinuses of the head. Indeed, he did not think they had much to learn concerning this subject, nor that they could find a better description than that given by Bourgelat before the foundation of the first veterinary school. He did not believe that there was any better description of the sinuses of the horse than that of Chauveau. Perhaps, however, the translation was not quite so good as the original of the last edition. Coming now to what he proposed to show, he wished, first of all, to allude to one or two statements made by Mr. Goodall. Passing over Mr. Goodall's remarks as to the defects of the standard works and of the school curriculum, and his advice to veterinary surgeons to renew their acquaintance with surgical anatomy, Mr. Macqueen came to his (Mr. Goodall's) statement with regard to the eustachian orifice being narrow. That was the first point to which he (Mr. Macqueen) positively objected. Another statement of Mr.

Goodall's was "that there was no trace of a shred of a doubt that in the treatment of diseases of these sinuses by nasal insufflation the medicinal agent readily gains an entrance from the nasal chamber to the sinuses." Now, he (Mr. Macqueen) maintained the very opposite of this. He held that there were mountains of doubt and insuperable difficulty as to getting anything into the sinuses at all. Then Mr. Goodall again expressed his opinion of reference books and their inadequacy, but this Mr. Macqueen said he would pass by. Mr. Goodall referred to the anterior maxillary sinus, when it was formed, and made a very peculiar statement. This was the passage, "It is asserted by most anatomists that this sinus is not formed until maturity, though M. Goubaux has shown a head, with the sinus at six months old." Then Mr. Goodall exhibited a head or two and went on to say: "Before leaving this part of the subject I have a most interesting fact to point out to you, viz., that by a careful examination of the condition of these sinuses it would be possible for an expert to tell whether or not a young animal had breathed, independently of an inspection of the lung; for these sinuses are not inflated before the first act of respiration." Mr. Goodall contradicted himself. He first asserted the existence of the sinus in a 240 days fœtus and then told his audience that the sinus was not inflated before the first act of respiration. Next, Mr. Goodall referred to the common opening, and he maintained that it dilated and contracted. As to this he (Mr. Macqueen) should have something to say. Mr. Goodall, in his paper, further alluded to olfaction and the Schneiderian membrane, which he spoke of as being erectile in some places. That, he (Mr. Macqueen) would have occasion to notice. Mr. Goodall concluded by saying it was easy to inject the natural orifice. His words were: "If, as we know from experience, there is any difficulty in establishing a drainage from the sinuses into the nasal chambers — the canal closing from any cause—what more simple than first to try a syringe with a curved nozzle, which should be introduced under this plate into the natural orifice, to effect a passage by forcing a stream of water into the proper channel." Well, it was necessary also to allude to Prof. Smith who read a paper on the subject of nasal gleet. That gentleman evidently chuckled over the defective elementary anatomical knowledge of students, but was very quickly brought to book in respect of his own knowledge by Mr. Goodall. So Prof. Smith's was only a short-lived hilarity; but very likely he (Mr. Macqueen) would be found to support Prof. Smith to a very large extent.

Mr. Macqueen then proceeded to exhibit and explain a large number of specimens in refutation of the theories advanced by Mr. Goodall. The first specimen he showed was a longitudinal section of a horse's head, including a a portion of the first three vertebræ. The first point to which he objected in Mr. Goodall's paper was, he said, as to the size of the opening of the Eustachian opening. Now, in the specimen then submitted it would be found that that opening, instead of being narrow, was large enough to admit the extremities of two or three fingers. The next specimen he exhibited showed the posterior half of the frontal sinus and how far back it extended; the specimen showed the anterior limit of the sinus under the nasal bone, and the anterior or superior boundary of the posterior maxillary sinus. Another specimen Mr. Macqueen exhibited showed, he said, the average size of the orifice by which the sinus communicated with the nasal chamber. He had inserted a feather in the orifice, but in another specimen no feather or probe was needed because the opening was so large. Another specimen, he pointed out, might be regarded as abnormal, as the opening in it was large enough to admit the points of three fingers. This occurred in a horse of considerable age. Another specimen exhibited the orifice leading to the posterior maxillary sinus, while the opposite section of the head (also shown) displayed the opening into the anterior maxillary sinus.

He would presently call their attention to the common orifice by reading some statistics he had prepared based upon an examination of skulls. In the majority of cases he found the slit no wider than would admit of the insertion of an ordinary table knife blade flat-wise. He pointed to an average opening in one specimen on the table, saying that the feather in it indicated where the knife blade would pass. Immediately in front and a little more to the outside they came upon the opening by which the anterior maxillary sinus communicated with the meatus. In order to show that orifice it was necessary to open into the posterior cavity of the inferior turbinated bone. Having opened that cavity they were able to see a small loose membrane covering the incurved edge of the inferior turbinated bone. That was the "valve." It was formed in this way:—the inferior or maxillary turbinated bone in describing its convolution, lay for part of its course, in contact with the inner face of the superior maxillary bone. Between the surfaces thus opposed a narrow chink or space was left through which a probe or feather could be passed until the interior of the sinus was reached. The two surfaces of the turbinated bone were lined by pituitory membrane. In some cases this membrane was larger than the bone; and in consequence the part at the free or incurved edge of the turbinal formed a fold, more or less loose, beneath which the probe passed in entering the sinus. The so-called "valve" was neither more nor less than the incurved edge of the inferior turbinated bone, and that portion only of the edge that was free that was in contact with—yet unattached to the superior maxillary bone. Behind this region—behind this "valve" they would notice in a section, which he sent round, the curved slit which led into the superior or posterior maxillary sinus. Viewed from behind this opening was seen immediately above the posterior or blind extremity of the inferior turbinal. Next as to the anterior boundary or limit of the anterior maxillary sinus. That had some practical bearing. In most cases in which they wanted to establish drainage it was advisable to open as low down as possible or as far forward as possible—according to the position of the head. The point was the inferior or anterior boundary of the anterior sinus. This, in many cases, terminated at the extremity of the maxillary spine; but in an equal number of cases the boundary was considerably farther forward—as far as the opening of the infra-orbital foramen, so that in order to effect perfect drainage of this sinus it was necessary to trephine over a tooth.

Then as to the position of the septum between the anterior and posterior sinus, he did not think much importance need be attached to the position of the septum. It was sometimes described as being between the fourth and fifth molar teeth, and, when he came to refer to figures, he should be able to tell them in how many cases he had found it between the fourth and fifth and how many times he found it between the fifth and sixth. He had discovered the septum immediately over the fifth, and between the fourth and fifth, and in one or two instances he had found it over the root of the fourth tooth. In some cases that septum passed transversely, while in others it described an obliquity which was well marked. Lastly, this septum might be absent. He had found it altogether absent on one side and imperfectly present on the other. He had found it imperfect on both sides, that was to say there was a circular opening, a perforation, so that there was communication, over a certain obstacle of course, between the posterior sinus and the anterior. He had found it with a simple foramen, and, in one case in 53, he found this partition reduced to membrane, merely two mucous membranes placed back to back, which could be moved to and fro.

He now came to a point more important to veterinarians, and that was how to medicate the sinuses. He did not propose to touch upon the function of olfaction—that would take up too much time. He passed over the Schneiderian membrane; there was really nothing in it; he objected, however, to its being called "erectile tissue." Gamgee was the first to allude to the membrane as being erectile. No doubt he (Gamgee) obtained his information in France, when he studied contemporaneously with Chauveau, but Chauveau did not describe the membrane as being erectile tissue: he described it as "somewhat like erectile tissue" but then only after having described the vascular supply of the membrane. He described how there were from three to five layers of valveless veins in the membrane, and after explaining how they communicated one with another, he stated that this plexiform arrangement imparted to this membrane in certain places the appearance of erectile tissue, but it was not erectile or constructed of erectile tissue.

With regard to the name ozœna, he was surprised to find from the debates that this always referred to a discharge which had some portion of its seat in the nasal sinuses—in the sinuses of the head. Ozœna, he considered, was any chronic foul-smelling discharge from the nose. Perhaps it was serous, but it was of no consequence whether the lining of the sinuses was involved or not. If the discharge was a stinking discharge it constituted the disease known as "ozœna." In France an individual suffering from this disease was known as a *punais*, the smell of the individual resembling somewhat the smell of a crushed bed bug, a bug being in French *punaise*. Ozœna might be due to disease of the nasal lining; of the turbinated bones; of the sinuses: or all three.

Proceeding to the subject of medication he desired to say something as to the course of the air. Many years ago Colin, the French physiologist, performed some experiments to prove what part the nasal chambers played in the function of respiration: whether the sinuses had any important participation in that function or not, and he referred to the operation of trephining. If they noticed when they opened the frontal or maxillary sinus they would see air escape during each expiration—he said expiration and not inspiration — during each expiration there was an escape of air from the opening; during inspiration there was no escape of air, and Colin experimentally proved this in a healthy horse where there was no pus in the sinus whatever. He trepanned the frontal sinus of the ox and the frontal sinus of the horse, and he carefully removed the disc of bone, leaving the periosteum or lining, perfectly intact, when the horse or the ox breathed, it was noticed that during inspiration the membrane, left intact, became depressed from the inspiratory movement while the expiratory movement caused a slight elevation of the membrane. He (Prof. Macqueen) had repeated that experiment in one or two cases. He carefully removed the disc of bone. In the specimen which he showed they would see the trepan-opening with the membrane partly ruptured, but at the time he performed the experiment the membrane was intact. In case of any hurt to sentiment the experiment was conducted on a dead animal and, in order to imitate inspiratory and expiratory movement he used a foot-bellows. He took particular care to place the nozzle first in the lower meatus, and then in the middle meatus; and on each occasion of the down stroke of the bellows, there was a depression of the membrane. The moment the foot was taken off the bellows the membrane was relaxed or slightly raised. An objection might be raised that this was not the natural condition of the head, and that he was simply producing a change which might not exist in the living animal. Well, suppose they removed this piece of membrane, the sinus would be open and atmospheric air could enter or leave. Then if they brought towards the opening a piece of cotton wool they would notice that, during inspiration the wool would be drawn into the sinus while during expiration the wool would move slightly outwards. Moreover, these experiments showed that during inspiration the sinuses were not filled with air, it was the wrong time for this. During the inspiratory movement, all that happened was a movement in the column of air that filled the nasal cavaties and their diverticuli, and by the respiratory passage that column of air was drawn towards the depth of the respiratory track, trachea, lungs, and so on. It was quite possible that, owing to the reduction of pressure, some of the air in the sinuses passed back to the depth of the respiratory track. These experiments tended to prove that during inspiration the tension of air in the sinuses of the head was diminished and it naturally passed along the line of least resistance towards the lungs and trachea, and though the sinuses were filled with air from time to time—they were filled most likely during expiration.

Mr. Goodall had gained a position which should render his name immortal. (Laughter). When he (Mr. Macqueen) read that gentleman's paper first, he had just been reading in the Bible about Saul, and it struck him that Mr. Goodall resembled Saul. Saul was sent out to seek his father's asses and he was made a king. Having regard to the second part of the discussion on Mr. Goodall's paper no one could doubt that Mr. Goodall had been installed a veterinary king—how deservedly, he (Mr. Macqueen) would not say. (Laughter.) But it was related that the Almighty repented of his choice. (Laughter.) Mr. Goodall was quite positive that in future there need not be "the trace of a shred of a doubt" that, in the treatment of diseases of these sinuses by nasal insufflation the medicinal agent readily gains an entrance from the nasal chamber to the sinuses. Well, he (Mr. Macqueen) had tried insufflation. He tried a German insufflator (which he showed). He had filled the bottle produced with tumeric; had used the ordinary apparatus, the straight tube, and took care to follow the directions of Mr. Goodall in regard to the middle meatus. He injected powder once or twice, sufficient to enter the sinuses. The horse was killed, its head was opened, he took the roof off, and there was no sign or trace of powder in any part of any sinus. He found that the powder had reached the common opening—the curved slit but no further. Not in one horse but in twenty had he used the powder internally as Mr. Goodall directed, and Prof. Shave had doubtless tried other horses in a like manner, but in no case was powder found in the sinuses when examination was made. Nor, had he (Mr. Macqueen) only used the little bellows which he produced. He had used another (which he also produced) which, he said, gave a constant force and sent the powder two feet from the nozzle in a continuous shower, so that the failure of the experiment was not due to want of force behind. He employed a foot bellows kindly provided by Prof. McFadyean, and by means of this bellows—giving a considerable amount of power—he insufflated a living horse and also a dead horse, but in no case had he succeeded in an experiment which Mr. Goodall said was so "Simple, easy and sure." Insufflation was, he admitted, an excellent means of medicating the nasal chamber, but he denied that it was any use in medicating the sinuses of the horse's head.

The next instrument he tried was an invention forty years old, of Professor Rey, of Lyons. He had used a similar instrument frequently in Scotland. It was known as Rey's syphon-tube. By atmospheric pressure fluid poured into Rey's tube passed up one nasal chamber, over the septum, and down the other. Both nasal cham-

bers could be washed most effectually by Rey's tube. It was an excellent means of irrigating the nasal chambers, but he had tried with it to get fluid into the sinuses of a living and of a dead horse and had completely failed in both cases. Then they came to the last form of medication, the ordinary enema syringe. He had, through the kindness of Professor McFadyean, been able to treat one or two horses in this way, and he used a solution of gentian-violet so that there might be no chance of failing to discover the staining of the lining. It was injected first up one nostril, then the other. Nothing, however, could be got into the sinuses by means of this syringe save when he turned the head of a horse, which had been dead 24 hours, on its side. The moment he turned it on its side and injected the lower nostril he found that some of the liquid would pass into the sinus, but the quantity was extremely small, not nearly so much as one would anticipate, considering that there was no hurry. While partial success was achieved in this way they must remember that this was not a form of medication that could be recommended to veterinarians. No one could afford to cast a horse every day in order to wash out the sinuses. Besides the operation of using an enema syringe on a horse's head in that fashion was highly dangerous. There would be a great risk of choking the horse.

Now, he had arrived at something which he might say belonged to the other side. He had no personal object to serve in describing what he had found. He wanted simply to get at the truth, and he did not want wrong impressions to go abroad. He wished to tell them what happened when he tried another case. Through the kindness of a horse slaughterer, he took a syringe and an injection of gentian-violet to a horse which was killed, and immediately after it was dead he forced the solution into the lower nostril, and also, after turning the head, into the other nostril. When the roof was taken off the effect of the injection in a dead subject was ascertained. (Here Mr. Macqueen exhibited the specimen). There was the section of the head to which he referred in which they would see that the injection not only stained one sinus or portion of a sinus, but the lining throughout. Every nook and cranny of the sinuses were stained. This showed that there was a possibility of putting liquid into a horse's sinuses after it was dead. (Laughter). It was suggested that he should procure the head of a colliery pony, that if dust could penetrate the nasal sinuses, the sinus lining would show it. Well, he obtained two heads of pit ponies, one from Mr. Woods, of Wigan. The pony to which it belonged had worked in a pit at least two years and no part of any of the sinuses contained the slightest trace of carbon or of coal dust. In the second specimen which came from Bishop Auckland the like result followed investigation.

Mr. Macqueen then read:—

ANALYSIS OF EXAMINATION OF 53 HEADS.

Size of Common Opening.—Small in 39 } Skulls.
Large in 11 }

Position of Maxillary Septum.—
Between 5th and 6th molars in 16.
Between 4th and 5th do. in 8.
Over roots of 5th do. in 12.
Over roots of 6th do. in 10.

Absence or other peculiarity of Maxillary Septum.—
Absent on one side in 1 skull.
Absent on both sides in 1 skull.
Imperfect on both sides in 1 skull.
Pierced by a foramen only in 3 skulls.
Reduced to a double mucous septum in 1 skull.

Position of anterior limit of anterior (or inferior) Maxillary Sinus.—
At free extremity of maxillary spine in 23 skulls.
In front of the extremity or level with the infra orbital foramen — sometimes over two inches in advance of maxillary spine. } in 25 skulls.

Number examined 53. Ages 1-2 years old; 2 rising 5; 5-6 yrs.; 2-7 yrs.; 5-8 yrs.; 3-9 yrs.; 4-10 yrs.; 2-12 yrs.; 6 between 14 and 16 yrs.; 11 more than 16 but less than 20 yrs; 2 not less than 25 yrs. The rest over 20 yrs., doubtful or omitted.

Well, these were the statistics he had noted regarding the skulls he had examined. He had examined these skulls and had brought them the specimens he had exhibited. The latter were not well prepared, they were not clean, they were not intended for a museum. (Laughter.) Hence no gentleman need propose that they should be handed over to a museum. They were prepared hurriedly, there was not much time to lose. They were intended simply to show the extent of the sinuses, the character of the common opening; and to a less extent, they were intended to show the so-called "valve opening." That valve was a difficult opening to show because of its peculiar position; but his main object was to satisfy himself and those who cared to listen to him, that it was simply impossible to insufflate or to irrigate the sinuses; and that with an enema syringe liquid could only be got into a horse's sinus when the horse's head was placed on one side. As to the false nostril, he would only say that that nostril was not peculiar to the horse. On the authority of Prof. Flower, of the British Museum, he could say that the false nostril was found in the tapir, in the rhinoceros and possibly in a good many other animals. He (Mr. Macqueen) regarded the false nostril as something simply to limit the volume of the inspiratory wave. Mr. Goodall made much of a certain appendix very near the false nostril to which he (Mr. Macqueen) desired to direct attention. He reminded them that the sinuses were not filled with air during inspiration but during expiration, and that the "boat-shaped" cavity was simply a trap to prevent the too rapid exit of the expiratory wave. That was the true function of the appendix in question. When they came to points of physiology, a man could draw any interpretation or inference he liked. The physiologist was a romancer, but the anatomist was not. (Laughter.) They were all under the impression that the false nostril was a pouch from four to six inches in length terminated by a blind extremity. That was so up to a certain extent, but if they examined this nostril on the inner wall they would perceive a slit on the inner wall three quarters of its length. He had taken up quite sufficient of their time. He hoped that they would dispute these facts and discuss the thing with any amount of vigour. All he claimed was the opportunity to reply. (Applause.)

ROYAL VETY. COLLEGE, VETERINARY MEDICAL ASSOCIATION.

The 172nd Ordinary Meeting was held in the Theatre of the College on Wednesday, February 1st, at 6.30 p.m., Mr. T. J. Brain in the chair. There were also present Mr. Wild, 39 members and the Assist. Secretary. The following gentlemen were then proposed as new members:—Messrs. E. Bell; J. Craft; A. Grimes, and Groves.

The minutes of last meeting having been read and confirmed the Chairman called on Mr. O'Rourke to read his paper on "Laminitis."

At the commencement Mr. O'Rourke described the normal structure of the foot and then gave the most common causes of the disease: over-exertion, inordinate feeding, drinking cold water when heated by exertion, prolonged journeys, a sudden chill or faulty shoeing. It is said to be communicated to the feet by metastasis from

inflammation of the internal organs as pleurisy, pneumonia, bronchitis, enteritis, and frequently a sequel to indigestion, it is often consequent to parturition in the mare, sometimes individual animals present certain conformations which are conducive, such as a very large body and disproportionately small legs, horses with wide feet seem more susceptible, some say it is hereditary. One attack renders the animal very susceptible to subsequent ones. The immediate cause is most probably due to the presence of some irritant matter in the blood evidenced by more or less constitutional disturbance.

The treatment depends entirely upon the condition of the animal and the phase of the disease. Where it is fairly established, take off all the shoes and place in a loose box. Bleeding is beneficial and should be performed at the jugular, if the patient is not favourable to this operation a smart purgative should be given followed by aperients. Where pain is excessive give opium or chloral hydrate, where the fever is high tr. aconite; in cases of indigestion, bicarb. of soda or hyposulphate of soda. The feet should be placed in bran poultices and as soon as possible shod with rocker shoes.

A good and well sustained discussion followed, in which nearly all those present took part.

Votes of thanks to the Essayist and Chairman brought the meeting to a close.

E. E. SELDON,
Assist. Sec.

THE INDIAN CIVIL VETERINARY DEPARTMENT.

[From an editorial article in *The Civil and Military Gazette* for Jan. 12th, 1893, we give the following abstract No one will disagree with the conclusions of the writer that such a department is necessary and expedient in the best interest of India. The difficulty seems to be informing it, and as we understand, is twofold (1) the Indian Government want good officers and offer terms quite unacceptable (2) The officers who might make the department a success claim fair pay and pensions, with the privileges granted to other government servants of equal rank and usefulness. We very much fear that until the Indian Government recognise veterinary surgeons as educated men and experts they will not get the men necessary to ensure success.]

"In the early part of 1892 one of the subjects of official interest was the formation of the Civil Veterinary Department. A great deal of mystery was attempted in the matter of the proposed Rules of the Department, and proportionate curiosity was excited as to what these rules might be. In consequence sufficient interest attached to the matter to justify the publication, about once a week, of the fact that "the Rules of the Civil Veterinary Department have not yet been sanctioned." In the summer it transpired that the rules had been carefully and confidendially revised, and the announcement then took the shape of "The Revised Rules of the Civil Veterinary Department have not yet been sanctioned." Then mild surprise was aroused by the discovery that "the revised rules of the Civil Veterinary Department have not yet been sent Home for sanction." They were, however, sent eventually, and since then announcements on the subject have been sporadic rather than epidemic. Veterinary officers who have familiar knowledge of the Indian villager and his affairs, believe that the prosperity of India depends more upon the creation of an efficient Civil Veterinary Department than upon anything else that British rule has created or will create in India. Yet these same veterinary officers refuse to ensure the success of the Civil Veterinary Department by joining it: for the Department, as proposed, is one of the most brilliant "How-not-to-do-it" feats that Government has perpetrated for some years.

But first, why is the prosperity of India more dependent upon the creation of a Civil Veterinary Department than upon any other British creation in India? This question can be best answered by another comparison: because a more formidable foe to India than even the Russian is the Rinderpest. It is an invader, too, that is not being kept at arm's length by strategic roads, railways and strong places of arms: but one that has already devastated some tracts and has obtained a firm foothold in hundreds of districts throughout India. We are not drawing upon imagination, for a story of an officer, on a shooting trip, who had passed through a valley rich in cattle, and had revelled in the abundance of fresh milk, being recalled to duty in that same valley, and returning—after an interval of only a few weeks—to find it a valley of dead bones only, with a few emaciated, milkless cattle, all that were left of the great herds he had seen before. It is not, however, in desolating epidemics of this kind, so much as in the steady sap of the bullock labour of the country, and consequent impoverishment and indebtedness of the peasant that the danger of rinderpest in India lies, and the necessity of a Civil Veterinary Department is made manifest. An Army Veterinary officer can always be made available to deal with a large outbreak: but it is quite impossible for the Army Veterinary Department with its limited roll of officers, and their numerous important charges, to deal regularly and systematically, district by district, and village by village, with the cattle disease which, we fear, may now be truly regarded as ubiquitous.

Yet nothing less will suffice. Rinderpest is terribly contagious, and, like a destructive conflagration, burns itself out only for want of fuel. Like fire also, it leaves the unconsumed fragments that remain, scarred and useless. Anyone who has seen the cattle that have been attacked and have recovered, can recognise, without scientific knowledge, the fact that the animals are hopelessly wrecked. The farm work has to go on, and a substitute for the dead or diseased animal must be obtained. Now, a villager's pair of bullocks represent his capital. They represent so much water-drawing power, without which he cannot embark on agriculture. When, therefore, he is deprived of this, he naturally turns to the Government for aid. He obtains an advance of money on the usual terms, purchases another pair of bullocks and recommences his interrupted irrigation. He is now in the position of a man who is trading upon borrowed capital: which in itself is a sufficient downfall from his previous position of capitalist on a small scale. But worse follows. He puts them to work at the same well, with the same

gear, and houses them in the same stall. The natural result is a second calamity, which drives him this time to the money-lender. Even if his troubles have not resulted in the total or partial loss of his crops, he is doubly in debt for his working capital, and one of his creditors is a merciless usurer, who deprives him at last of his land, and thus he descends to the rank of a daily labourer, still in debt, and deprived even of a portion of his daily wage. This is the condition into which the yoeman of the country are falling: and viewed from one point of view, the cause may be said to be, simply, the want of a Civil Veterinary Department

There is no doubt that in the terrible prevalence of cattle disease, and the lamentable results that have accrued in hundreds of localities, a Civil Veterinary Department is among the most urgent needs of India. Why there should be this prolonged delay in establishing it on a proper footing, and why Army Veterinary officers, who more than anyone else, recognise its necessity, refuse to join it, and thus ensure its success, we will consider later."

The Indian C. V. D. at Work.

The Christmas Technical Class at Babugarh, commenced on Boxing Day and ended on New Year's eve. About 60 Europeans and natives attended. Amongst the former we noticed Major Gaisford, Deputy Commissioner of Quetta, Major Bond, Commissariat Department, Captains Morgan and Gunn, A.V.D. Lectures on stable management, dietetics, ventilation and conformation were dedelivered by Col. Hallen; on the management of stallions, brood mares and stock and the utilization of horses and mules in agriculture, by Captain Rayment, and on the cultivation of *dub* grass, lucerne, impey, Guinea grass and other fodder crops by Messrs. D. Silva and Burke, Vety. Overseers. Various ploughs and harrows were worked before the class by horse power, and the different systems of irrigation, by pumping. Persian wheel, and chursa were demonstrated to the class, all run by mares and donkeys belonging to the C. V. D. It was acknowledged by all that the crops were undeniably far better than those obtained by the ordinary methods of cultivation, and the fact that no bullock was allowed to work within the fences of the C. V. D. paddock, and the whole system depended on horse, donkey or mule, have impressed the native members of the class very strongly. Several of the influential native gentlemen attending are sending their tenants to learn how to utilize horse stock on their farms.

EXTRACTS AND NOTES.

GLANDERS AND FARCY.

In the House of Commons, February 3rd :—

Mr. T. H. Bolton asked the President of the Board of Agriculture whether his attention had been called to the fact that the London County Council, in carrying out the recent order with respect to glanders and farcy, refused compensation to the owners of animals compulsorily slaughtered; and whether any further legislation was contemplated with a view to the provision of reasonable compensation in such cases.

Mr. H. Gardner replied that the recent order with regard to glanders and farcy left it optional on the part of local authorities to slaughter and pay compensation for animals suffering from either of these diseases. The London County Council unanimously decided not to exercise the power thus conferred upon them, and he did not feel that he should be justified at the present time in setting aside their decision. In any case he did not think that any further legislation would be necessary.

Mr. Bolton asked whether, having regard to the serious danger there was to human life, the right hon. gentleman would consider the desirability of representing the matter to the London County Council for reconsideration.

Mr. H. Gardner said that there were other provisions in the order besides those for slaughter and compensation, and he thought it would be better under the circumstances to wait and see how they worked before taking further steps.

PLEURO-PNEUMONIA.

In the House of Commons, February 6th :—

Mr. Chaplin asked the President of the Board of Agriculture whether several cases of pleuro-pneumonia had been detected amongst animals landed from the United States of America in this country since the month of July; and whether he could state the total number of animals which were slaughtered by order of the Board of Agriculture in connection with the imports of Canadian cattle, amongst whom pleuro-pneumonia was discovered in October last, the number of different places, and the localities at which the slaughter was effected, and the amount paid in compensation.

Mr. Leng asked in how many of the Canadian cattle slaughtered in Scotland pleuro-pneumonia was detected; and whether the right hon. gentleman was aware that many eminent veterinary surgeons had asserted that such animals were not affected by that disease, but by another non-contagious complaint. He also asked the President of the Board of Agriculture whether his attention had been directed to the serious injury which would be inflicted on agriculturists in several large districts in Scotland if the importation of cattle for feeding purposes from Canada should be prohibited during the coming season; whether he had received any representations from the Dominion Government as to the non-existance of pleuro-pneumonia in Canadian cattle; and whether he could yet indicate what course the Board of Agriculture was likely to take on the subject.

Mr. Gardner.—In reply to the first paragraph of the question of the right hon. gentleman, I have to say that since July last 41 cases of pleuro-pneumonia, forming part of 18 different cargoes, have been discovered amongst cattle imported from the United States. With regard to Canada the number of cattle slaughtered by order of the Board of Agriculture, in consequence of the discovery of pleuro-pneumonia amongst two cargoes imported from Montreal in October last, was 1394. These cattle had been traced to 79 different places in the counties of Aberdeen, Banff, Elgin, Fife, Forfar, Kincardine, Perth, and Ross. The amount paid in compensation was £18,130, but against this must be set a sum of £8664 received for the carcases, etc. Four diseased animals in all were discovered amongst those imported, a fifth being a home-bred animal which had been in contact with one of the beasts brought from Canada. Doubts were expressed by veterinarians and others in Scotland as to whether the disease detected was contagious pleuro-pneumonia, but the verdict pronounced by my own professional advisers was unanimous and unhesitating. Immediately upon

the discovery of the diseased animals inquiries were instituted by the Canadian Government, and I was assured that after the most exhaustive examination in every part of the country not a single case of pleuro-pneumonia was found to exist. I could not, however, resist the conclusion, though I confess I arrived at it with the greatest regret and reluctance, that the arrival of the diseased animals indicated either the existence of some centre of disease in Canada unknown to the authorities there, or some deficiency in the law relating to the importation of cattle into the Dominion, and, this being so, I had no alternative under the statute but to withdraw the privilege of free entry. I am aware of the strong desire felt in some districts of Scotland that the privilege should be restored, and I should be very glad to find myself able to give effect to those wishes. I cannot say, however, that there is as yet any such material alteration in the position as would justify me in doing so, but I shall give my most attentive consideration to any further representations on the subject which may reach me either from the Canadian Government or elsewhere.

CONVICTIONS UNDER THE VETERINARY SURGEONS ACT.

At Bromley Petty Sessions on Monday, 30th January, 1893, before S. P. Lowe, Esq. in the chair, Colonel Colville, Captain Vansittart, Captain Hart Dyke, James Batten, R. D. Barnes, T. Hamilton Fox, R. Stevens, and F. D. Haigh, Esquires, E. Ford, of Foots Cray, was summoned at the instance of the Royal College of Veterinary Surgeons for an infringement of Section 17 of the Veterinary Surgeons Act, 1881.

Mr. Thatcher, the College Solicitor, conducted the prosecution and stated that the defendant was a shoeing smith carrying on business at Foots Cray, where he displayed a sign-board with the following inscription : "E. Ford, R.S.S. All diseases of the feet attended to." He briefly explained the 17th section of the Act and that defendant was an unqualified person within the meaning of it, and he contended that the words "all diseases of the feet attended to" was a description within the meaning of the section, implying that the defendant was specially qualified to practise a branch of veterinary surgery, and he cited the judgment in the case of the College against Robinson and contended that if the mere display of the word "veterinary" in connection with a "forge" was a description implying veterinary skill the present case was much stronger and that a conviction must follow. Evidence was then given of the offence and that defendant was not on the register, and that the prosecution was by authority of the Council.

Defendant stated that he was not aware that he was doing anything wrong, that he had been accustomed to treat diseases of the feet of horses for many years and thoroughly understood it all.

The magistrates then retired to consider their decision and on their return into Court the Chairman said their was nothing to prevent the defendant treating diseases of the feet, but he must not hold out that he was qualified to do so nor could he recover his fees, and that he would run considerable risk if he treated a case and failed to make a cure. The Bench considered the words complained of came within the meaning of the section, but they thought defendant had acted in ignorance, and were not disposed to inflict a heavy penalty, but if the words were not removed at once and he came there again he must expect to be severely dealt with. They fined him 10s. and 11s. costs.

Henry A. Proctor, Castle Donington, farrier, for whom Mr. Henry Deane appeared, was charged with practising as a veterinary surgeon, he not being registered as required by the Veterinary Surgeons Act of 1881.

Mr. R. S. Clifford prosecuted, and evidence was given by Mr. Mallock as to the existence of an inscription containing the word "Surgery" on defendant's window-blind, and another inscription containing the word "Dispensary."

Mr. Deane urged that defendant had not "taken and used any addition or description" stating that he was properly qualified. He had merely put up the word "Surgery," from which some people might infer that he was a surgeon. He had assumed a title that would lead to the belief that he was registered, and had since had the word "Surgery" taken off. The object of the act, he contended, was not to prevent persons from practising, but to make a distinction between practitioners who were registered and those who were not. The Chairman said the Bench considered the inscriptions were misleading, and defendant was fined £1.

THE EFFECTS OF CURARE.

The Antivivisectionists have long made a strong point by repeating the fallacy of curare being a drug that paralysed movement but left the sensibility unaffected. This is now upset. The evidence is taken from a statement by Mr. Victor Horsley, published in *The Rock* of January 6th, 1893, and is thus summarised :

(*a*) Experimental evidence.—(1) If a decapitated frog be thoroughly curarised, and the poison prevented from entering one hind limb (say the right), which consequently remains not paralysed, then it is found that irritation of the sensory nerves of the skin of the other (the left) leg produces no reflex contraction of the muscles of the protected leg, showing that the sensory nerves in the left (the poisoned) leg are paralysed. (2) In experiments on the Continent, where curare is employed as an anæsthetic, it is found that the calibre of the arteries does not vary, although in every operation numbers of sensitive nerves are freely divided and irritated. Pain, such as would thereby be produced, is, as everyone knows, the most powerful agent for altering the calibre of the arteries, and it is common knowledge that in consequence when we are in pain our vessels dilate and contract powerfully. The absence of such changes in the vessels of the curarised animal proves the absence of pain in it.

(*b*) Clinical evidence.—Since the imperfect records of cases in the past where curare was administered for various diseases and in small doses, an instance has occurred in which a human being was accidentally poisoned to the same degree as a curarised animal. In this case, published by Mr. White in *The British Medical Journal*, 1889, a maid accidentally transfixed her arm with an Indian arrow. To make a long story short, she became in half-an-hour paralysed, and, as it subsequently proved, unconscious. Artificial respiration was practised in accordance with the teachings of experimental research and she was happily restored. The wound, which was smeared with the vegetable poison, was rapidly cut out. On her recovery she was astonished to find the large wound in her arm, the operation upon which she had been totally unconscious of.—*British Medical Journal.*

Contagious Diseases of Cattle.

At last meeting of the Royal Agricultural Society Mr. Cope (for Professor Brown) presented the following report :—

PLEURO-PNEUMONIA.—The whole of the United Kingdom may now be looked upon as practically free from pleuro-pneumonia, there having been no case of the disease found among home-bred cattle for four months. The last outbreak in Great Britain was discovered in a London cowshed on October 1st, while the last in Ireland occurred during the last week of September.

FOOT-AND-MOUTH DISEASE.—Since the last meeting of the Council an outbreak of this disease was discovered in a cowshed in North London on January 1st. Prompt measures were at once adopted to prevent the spread of the infection. The whole of the nine cows in the shed (six of which were infected) were slaughtered on the premises, the offal, hides, etc., destroyed as well as the whole of the litter, fodder, and other things in the shed, and the premises then thoroughly cleansed and disinfected. No further case of the disease has been found since, and the country is again free.

A Professional Advertisement.

FARMERS and Breeders may save the delay and expense of the Farrier's attendance by learning to operate on their own Calves, Pigs, Lambs, etc. An experienced Veterinary Surgeon can teach any intelligent person in one day.—Write for particulars to OLD HAND, — Rectory Grove,———

SIR,

I culled the attached from *The West Sussex Gazette* of January 26th and forward it to you for the benefit of the profession at large.

This seems to me a more objectionable advertisement than if the "Experienced Veterinary Surgeon" had simply asked for work himself. He proposes here to render such aid as will make the regular practitioner quite unnecessary. "Its a dirty bird that fouls its own nest."—Yours faithfully, O. K.

News.

A serious outbreak of anthrax has occurred on the farm of Mr. Measure, of Morton, near Bourn, Lincolnshire. At a meeting of the County Council executive, held at the Guildhall, Grantham, on Saturday 348 sheep were ordered to be destroyed. Their value is £927 15s. There are over 500 sheep in a field adjoining.

At a Court of Examiners, held in London on the 26th January, Mr. Thomas Aubrey, of the firm of Broad and Aubrey, of this city, passed the necessary examination and was admitted a Fellow of the Royal College of Veterinary Surgeons. Mr. Aubrey has been appointed one of the veterinary examiners at the Shire Horse Show, to be held at Islington this month.—*The Bath Chronicle.*

The Special Commission to inquire into the working of the provisions of the Contagious Diseases (Animals) Acts in so far as they relate to swine fever, and to consider whether any more effective measures can be adopted for its prevention or extirpation, wasfully appointed yesterday, (7th) the members being Lord Edmond Fitzmaurice (Chairman), Sir W. S. B. Kaye, of the Veterinary Department of the Irish Privy Council; Sir Jacob Wilson, of the Board of Agriculture; Professor Brown, of the Board of Agriculture; Mr. R. G. Wardlaw Ramsay, of Whitehill, Midlothian; Mr. Alexander Shaw, of Limerick; Mr. Joseph Smith, jun., of Braintree; Mr. T. Carrington Smith, of Admaston, Rugeley; Mr. Clement Stephenson, of Newcastle-on-Tyne, with Mr. F. A. Fulford, of the Board of Agriculture, as Secretary.—*The Morning Post, London.*

Obituary.

MR. THOMAS BRIGGS.

Mr. Thomas Briggs, Veterinary Surgeon, Bury; died at half-past one o'clock on Saturday afternoon at Halifax. He left Bury on Friday morning, apparently in his usual health to keep an engagment with his brother, Mr. A. W. Briggs, but during the day, while in Halifax, he was taken ill and a doctor was called in. A telegram was sent to Mrs. Briggs stating that her husband would be detained over night, and another was received on Saturday morning stating that he was ill and forbidden by a medical man to leave his bed. Mrs. Briggs at once went to Halifax, but arrived only in time to see her husband die. The secondary cause of death was epilepsy, and the primary cause syncope of the heart. The deceased gentleman had been subject to epilepsy.

The late Mr. Briggs, who was a son of the late Mr. James Briggs, of Thorn Hill, Prestwich, was born in 1851, and was thus in his 42nd year. He qualified in 1872 as a member of the Royal College of Veterinary Surgeons, and after practising some time at Prestwich removed to Bury. Mr. W. Packman, who had been assistant to him, was taken into partnership in April last, after studying in college and becoming duly qualified. For some years Mr. Briggs had been a member of the Bury Conservative Club, and had taken great interest in local political contests, especially the general elections. He, however, held no public office with the exception of that of borough magistrate. He was placed on the commission of the peace for the borough of Bury in 1886, qualifying on October 20th in that year. In September, 1891, he was married to Miss Harrison, of Blackpool. Mr. Briggs, who was a Churchman, resided at Croydon Terrace, Manchester Road. He was a very useful magistrade, and in addition to attending when it was his "week" he was very often fetched from his place of business, near the police office, to fill a "gap" caused by the absence of a brother justice. He attended court in this capacity only three days before his death.

Before the ordinary business of the Borough Police Court was commenced on Monday afternoon, Mr. Joshua Openshaw (who presided, and who was accompanied on the bench by Messrs. J. T. Newbold and T. Killon) said he wished to express the sorrow of the magistrates at Mr. Briggs' unexpected death. He remarked that he had been associated with Mr. Briggs for some considerable time, and could say that no magistrate had shown a more active interest in the discharge of his duties or a greater anxiety to perform those duties satisfactorily. Mr. Briggs paid great attention to the cases brought before him, and always tried to give fair and just decisions—erring, when he did err, on the side of mercy, and tempering mercy with justice. Mr. Openshaw proceeded to express the sympathy of the Bench with Mrs. Briggs, and, speaking of the great shock and blow that her husband's death must be to her, said he hoped that He who "tempered the wind to the shorn lamb" would give her strength in her time of trial.

Mr. F. Howarth, on behalf of the advocates practising in the court; Mr. H. T. Bull, deputy clerk to the Bench, and Superintendent Noblett of the Police, also expressed the regret of their respective departments, and bore testimony to Mr. Briggs' conscientious performance of his duties.—*The Bury Times.*

CORRESPONDENCE.

MILK FEVER.

SIR,

In this week's issue I see that Mr. Ward is propounding a theory that the above disease is due to want of stimulus to the brain, and that that want is caused by the custom of breeders removing the calf immediately upon its birth, and he asks for opinions of practitioners residing in districts where this custom is not prevalent.

Now I myself reside in a district both where milk fever is very prevalent and the custom is to leave the calves with their mothers upwards of a week. Therefore I am in a position to make a few remarks on the opposite side.

It is admitted by all that plethoric cows and deep milkers are most liable to the disease and the predisposing causes are, plethora, easy birth, with small offsprings and climatic influences.

But I cannot agree with Mr. Ward that the exciting cause is the removal of the calf, for I have attended within the last three weeks six cases of milk fever which had their calves with them at the time they went to ground, therefore in these cases there was neither want of maternal affection nor distress to account for Mr. Ward's want of stimulus. Two of these cases were plucky little Jerseys which I saw before they lost their legs, and I should imagine that their excitement was quite sufficient to stimulate their brain for upon seeing me, a stranger, go into their loose boxes with the calves one charged me so fiercely that it stimulated me to get quickly over the partition.

As regards Mr. Wards suggestion that the brain degenerates through want of company of offspring from the 3rd to 6th calf, of course in my practice cases occur most frequently at that time, but I attribute this occurrence to be due to that at these periods the cow comes to her full maturity and vascularity; and taking the fact into consideration that the animals attacked have come to full maturity, are plethoric, and heavy milkers, yielding a tremendous amount of fat in their milk, we cannot get away from the fact that it is more than probable that fat globules is the chief factor giving rise to this disease by producing embolism of the capillaries of the brain; as I have seen animals killed in most stages of the disease and find that the area of extravasation proceeds progressively from brain down cervical portion of spinal cord. As regards the treatment of this disease, I have always treated it with the idea of keeping the blood as fluid as possible, and like Mr. McCounel, I look upon salts as poison from the fact that they abstract fluid from the blood, but like "A Country Practitioner" writing in *The Veterinary Record* some time ago I have found the pot. bromide and chloral hydrate most disastrous in my practice. But unlike "Country Practitioner" I did not lose 14 cases, but having treated four cases consecutively, and unfortunately all of them dying where I did not think they ought, I saw the red light. The best remedy I have found is ammonia salts repeated frequently, it not only produces fluidity of blood but helps to ward off attacks of collapse, especially the latter when combined with small doses of whiskey. Counter irritants to spine I consider most useful, but I am of opinion that good nursing is equally as useful as medicine keeping animal up to its lying frequently, changing sides, and keeping cold clothes or ice continually to poll. Where recovery is fairly established I give a few doses of nucis vom. with advantage. The bowels and bladder should have careful attention. With this treatment I have saved fully 60 to 70 per cent. The six cases quoted, five made a good recovery and the sixth which died had been heavily dosed with salts before my seeing her. I have no trouble with the bowels, as after recovery has commenced they act very freely. As regards the prevention, the only way experience has taught me is to reduce the fat, feed sparingly before calving, let animal live on its own fat, and my opinion is that milk fever would be more rare.

"VET."

PARTURIENT APOPLEXY.

SIR,

I have read with interest not unmixed with amusement the article appearing in your current issue under the above heading.

I am in ignorance as to the district in which Mr. Ward practices, but should infer from the peculiarity of his terms for the sounds emitted by bovines, that the cattle there are much more humanized than in the country generally. Personally, I should think that anything less resembling *a shout* than the plaintive cry of a calf, during the first few days of its existence, would be difficult to imagine. The theory that parturient apoplexy is due to want of exercise of the cow's intellectual faculties is certainly original, but it scarcely explains why the brain of the cow, more than that of any other of the domestic animals, should become degenerate or semi-torpid, or why the cow's brain should be more in need of stimulation after parturition than at any other period of its existence. If this suggestion of your correspondent is to be taken seriously, I should consider that a cow put up for feeding and standing in the same stall for, perhaps, six months, without any exercise and excitement whatever, would be a much more likely subject for the disease. To assume that the disease arises in the brain instead of the lacteal system, and to look at the condition of that organ as the cause instead of as one of the results of the disease, is, in my opinion, putting the cart before the horse with a vengeance. It would be as logical to assume in a case of tympanitis, that the distension of the stomach is due to some inherent elasticity of that organ, instead of a passive condition resulting from pressure of its fermenting contents.

This theory of brain atrophy after calving leaves out of all account the cases, by no means uncommon, of parturient apoplexy occurring before parturition, and also the fact that only one class of cows is affected by the disease, viz., cows giving rich milk, quantity of the article being an unimportant consideration. This fact gave rise to the theory put forth sometime ago by, I believe, Prof. Penberthy, that parturient apoplexy was due to fatty degeneration of the brain and its blood vessels, and to plugging of the vessels with fat cells. Though an excellent theory it fails to find confirmation in the general presence of fatty degeneration post-mortem, and this leads me to a peculiarity of the disease, which is, that if the patient dies without complication or is killed, the practitioner on post-mortem examination usually fails to find optical proof of any disease whatever.

Another argument against your correspondent's idea of the brain origin of the disease, is that the cow is not as he supposes, more liable to an attack the older she gets. The liability commences with the second calf and increases to the fourth or fifth, and then declines with the diminution of the milk producing powers of the subject, very old cows having an immunity from the disease almost equal to that of heifers.

Members of the bovine race have a tendency in diseases of the digestive system to sympathetic affections of the brain and spinal cord, resulting in paralysis and sometimes coma, and I have seen cases arising from indigestion in non-breeding stock, where the symptoms have been practically inseparable from those of parturient apoplexy. Mr. Ward's method of diagnosing whether a comatose cow is really suffering from apoplexy or from the effects of an overloaded stomach, is certainly one which ought to be carefully noted by the cattle practitioner, I fear though it would hardly be consistent with professional

dignity when asked by a client as to the disease from which his cow was suffering, to reply, "Well, I can *hardly* say at present, but I am going to administer a pound of salts, if the cow gets better it is apoplexy, if she dies, fardel bound." Most clients, I fear, would be inclined to take a second opinion. After carefully reading the article I am not quite sure whether Mr. Ward advocates taking away the calf after birth, but I think the gist of his contention is this. Parturient apoplexy is due to the brain of the cow not being properly excited, therefore to excite her take away the calf after birth, but if, notwithstanding this, she shows symptoms of the disease the additional excitement of having the calf back again will be sure to effect a cure. *Query.*—Why remove the calf at all, for its presence would be a continual stimulation; but it would not prevent the disease, as in this district the calves are seldom removed, and the disease is unpleasantly frequent. In cases such as that described, where the calf was brought back and effected a cure, the disease was more probably septic poisoning from decomposing uterine contents than parturient apoplexy, I have never yet seen a case of the latter disease where the placenta was retained.

I fear, Mr. Editor, I have taken up a great deal of your valuable space in destructive criticism, but having spent seven years in practice in a district where the disease is perhaps more common than any other, I shall be happy, if agreeable to you, to give, in another article, the conclusions at which I have arrived as to its etiology and treatment. M.R.C.V.S.

THE SUMMER SESSION SCHEME.

SIR,

Seeing C.J.'s letter in last week's *Record*, I should also very much like to know why we students who passed one of our examinations last Christmas, and who are not due up again for another year, should have to remain at College for the Summer Session. What shall we learn during that time? Probably nothing. Take Class B for instance, most likely no dissecting will take place, perhaps we may have one lecture a day. Many students have not finished their articles with veterinary surgeons before joining the College, and with the summer session there will only be three months vacation, and many like a little time for themselves. So really there is only about two months for seeing practice. Some other students, no doubt, have made arrangements already for June, July, and August, and so will have to forfeit a month of that time by this new regulation. When we entered the College we were not told we should have to remain up in London during June, and therefore can the Governors legally make us do so?—Yours truly,

A STUDENT NOT DUE TILL CHRISTMAS.

[We cannot venture any opinion on the legal position of the summer session. No doubt the sudden and unexpected imposition will cause much inconvenience, to say nothing of the extra expense to poor men.—ED.]

THE MONOPOLY OF THE ADJECTIVE "VETERINARY."

SIR,

As one who is directly interested in the veterinary profession, kindly allow me to avail myself of a little of your valuable space.

The one great drawback to a country practitioner now—and I think most of them will agree with me—is the local chemist and druggist. This gentleman, by acting as the agent for nearly every quack nostrum in existence, the advertisement of which is pushed into the hands of every stock-dealer and farmer, first gains that said stock-dealer's or farmer's acquaintance; then, by a word dropped here, and a word dropped there, into the ear of a man who—"too anxious to save, as he thinks, a little expense, no matter at what future cost"—listens eagerly, this wily chemist first persuades him into one thing and then into another. First, he dispenses for his animals, then for his wife; dispenses for his family, for his labourers, and for the gentleman himself. Finally he winds up by *prescribing* for the whole lot, and extracting their teeth (animals' excluded—that's left to us!)

Give these canny, pushing gents an inch and most assuredly they will take an ell. Depriving them of the use of the adjective "veterinary" is pinching them in a very sore spot, and I, for one, most certainly think it should be made to pinch a little harder.

What with a "registered *farrier*" to contend with, and a probable "*veterinary* chemist" I think it is a poor lookout for

A VETERINARY STUDENT WHO HOPES TO BECOME A VETERINARY? PRACTITIONER.

THE EXAMINATIONS.

SIR,

Having heard that the students who passed their first examination *last Christmas* are to be allowed up for their second examination this *next May* instead of the usual course of continuing their studies till *next Christmas*, before presenting themselves, I cannot refrain from commenting on this unusual procedure since I think it is a matter of great importance to the whole veterinary profession.

If this plan is carried out, those students who *cram* sufficient knowledge to pass the examination will only have heard *half* the course of lectures, and had a shorter time for dissecting.

Why should men who are mostly students who failed in their first examination be allowed to present themselves with students who were successful in that examination?

It stands to reason that the limited time of *four months* is not sufficient to obtain even a cursory knowledge of physiology, histology and anatomy (including dissecting), and a student who has not a good knowledge of these subjects cannot expect to be able to grasp the lectures on pathology, or become a good surgeon.

Besides! why has the four years course been adopted if, as in this case, two years and a half is sufficient time to acquire all the knowledge necessary for becoming an efficient member of our profession? I myself am sure that four years at College is not any too long a time, but think that it is more advantageous for a student to see mixed country practice during the summer than to spend that time at the College.—Yours faithfully, M.R.C.V.S.

HYDRASTIS CANADENSIS.

SIR,

At a recent meeting of the Central Veterinary Medical Society "hydrastis canadensis" was highly spoken of as a specific for diseases of mucous membranes. It was stated that it could be given internally and applied locally in certain diseases, but nothing was said of the dose given and the strength of the lotion.

Will some gentleman who has used the drug be kind enough to enlighten me by giving in these columns a short description of it, or state where this may be obtained? "AINSTY."

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED:—Vety.-Capt. Gunn, Messrs. C. J. Reakes, H. C. Wilkie, J. Thatcher, E. F. de Jong, E. E. Seldon, J. A. Robinson, E. G. Johnson, E. J. King, J. Bunnell, C. F. Hulford, G. Sturgess, W. F. Greenhalgh, H. G. Rogers, J. D., Vet. Student, "Manual of Operating Vety. Surgery" by A. Liautard, Smith's "Vety. Hygiene," "Edinburgh Evening Dispatch," "The Bury Times," "Halifax Evening Courier," "Yorkshire Post."